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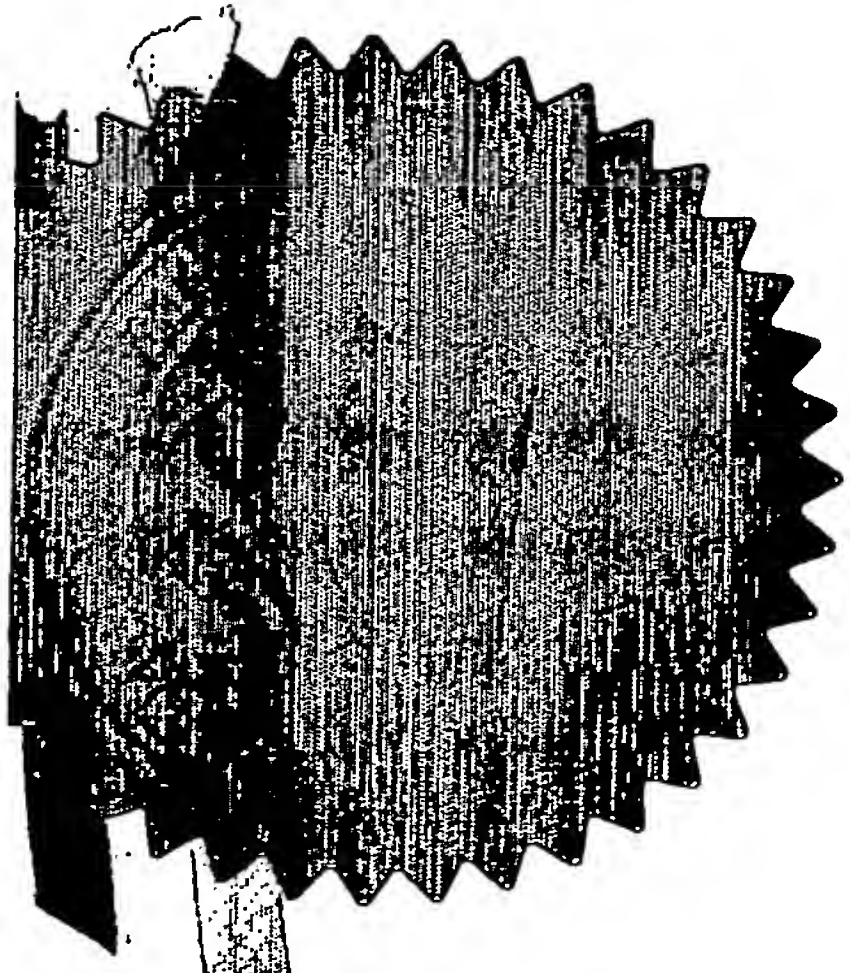
Application No. S2003/0430

Date of Filing 6 June 2003

Applicant THOMAS WILLIAM FLEMING, an Irish citizen,
of Jamesbrook, Midleton, County Cork, Ireland.

Dated this 12 day of May 2004.

PRIORITY DOCUMENT
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Wheeler

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Controller of Patents, Designs and Trademarks.

REQUEST FOR THE GRANT OF A PATENT

PATENTS ACT 1992

The Applicant(s) named herein hereby request(s)
[] the grant of a patent under Part II of the Act
[X] the grant of a short-term patent under Part III of the Act
on the basis of the information furnished hereunder.

1. Applicant(s)

FLEMING Thomas William
Jamesbrook
Midleton
County Cork
Ireland
an Irish citizen

2. Title of Invention

Improvements in and relating to hand held cable reels

3. Declaration of Priority on basis of previously filed application(s) for same invention (Sections 25 & 26)

<u>Previous Filing</u> <u>Date</u>	<u>Country in or for</u> <u>which filed</u>	<u>Filing No.</u>
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4. Identification of Inventor(s)

Name(s) and adresse(s) of person(s) believed
by the Applicant(s) to be the inventor(s)
Thomas William Fleming
an Irish citizen of Jamesbrook, Midleton, County Cork, Ireland.

5. Statement of right to be granted a patent (Section 17(2) (b))

6. Items accompanying this Request

- (i) [X] prescribed filing fee (Euro 60.00)
- (ii) [] specification containing a description and claims
[X] specification containing a description only
- (iii) [X] Drawings referred to in description or claims
- (iv) [] An abstract
- (v) [] Copy of previous application(s) whose priority is claimed
- (vi) [] Translation of previous application whose priority is claimed
- (vii) [] Authorisation of Agent (this may be given at 8 below if this Request is signed by the Applicant(s))

7. Divisional Application(s)

The following information is applicable to the present application which is made under Section 24 -

Earlier Application No.

Filing Date:

8. Agent

The following is authorised to act as agent in all proceedings connected with the obtaining of a patent to which this request relates and in relation to any patent granted -

Name & Address

Cruickshank & Co. at their address recorded for the time being in the Register of Patent Agents is hereby appointed Agents and address for service, presently 1 Holles Street, Dublin 2.

9. Address for service (if different from that at 8)

Signed Cruickshank & Co.

By:-

G. Schuth

Agents for the Applicant

Executive.

Date June 06, 2003.

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- 1 -

"Improvements in and relating to hand held cable reels"

5 This invention relates to hand held cable reels of the type comprising a central cable receiving core mounted between a pair of disc like end flanges, the cable reel having means to retain the cable in position relative the cable reel.

10 For many years, hand held cable reels have been used by individuals to store lengths of cable. Generally speaking, cable may be paid out from the cable reel by an operator to a desired amount and thereafter secured to the cable reel to prevent further payout of the cable. When the cable is no longer required, the cable may be wound back around the cable reel and stored securely until required once again.

15 Various different hand held cable reels have been devised to securely store cable. One such known type of cable reel is that described in US Patent No. 4022398 (Youngblood). This cable reel is used to store hosepipe. When the hosepipe is wound around the cable reel, the end of the hosepipe is secured in place by passing one end of the hose through a hole in the flange of the cable reel. Although relatively simple to construct this type of cable reel has the disadvantage that it is often difficult to wind the cable back onto the reel due to the relative positioning of the handles.
20 Furthermore, in order for this type of cable reel to secure a length of electrical cable, the holes in the flanges must be sufficiently wide enough to allow the through passage of a plug on the end of the cable. By having holes of this size, the flange is significantly weakened thereby resulting in a less robust cable reel. Secondly, the plug will protrude from the outer surface of the cable reel where it can be damaged.
25 should the cable reel be subjected to any sort of impact when in a stowed configuration.

Another known type of cable reel is that described in US Patent No. 3481557 (Miller). This cable reel is designed to allow compact storage of a mason's line about the
30 reel. One disadvantage of this type of reel is that the cable when not in use is drawn through a notch in the flange and led around a cleat on the outer surface of the flange. This again would require the cable and plug in particular to be led around the outside of the flange where it will be prone to damage when in a stowed configuration. Another disadvantage to this type of device is that due to the spacing

between the handles this cable reel will have a tendency to oscillate back and forth when being wound up which results in difficulties in winding the cable onto the cable reel neatly in a quick manner.

- 5 Various other devices have been proposed to secure the cable in position on the cable reel. Generally, these consist of clips that are secured directly onto the cable adjacent its end so that once the cable has been wound up, it can be clipped onto an adjacent piece of cable already wound about the cable reel. These have been found to be effective in securing the cable in position. However, a disadvantage of this type of clip is that they are quite delicate and prone to breakage. By their very nature they are exposed when the cable is unwound from the reel and are prone to being stood on and trampled by unwary operators of the cable reel.

- 15 It is an object therefore of the present invention to provide a cable reel that overcomes at least some of these difficulties that is both robust and simple to manufacture.

Statements of Invention

- 20 According to the invention there is provided a hand held cable reel comprising a central cable receiving core mounted between a pair of disc like end flanges, the cable reel further comprising means to retain the cable in position relative the cable reel, characterised in that said means to retain the cable in position relative the cable reel further comprises a gripping member having an elongate body portion secured at one end to the flange and its other end being dimensioned to receive a cable, the end dimension to receive a cable being movable from a loading position substantially intermediate the pair of flanges and a securing position substantially external the flanges.

- 30 By having such a cable reel the cable when wound up on the cable reel can be secured to the cable reel in a simple and efficient manner that will not affect the durability of the cable reel. The end of the cable may be taken from a position between the flanges to a position outside the flanges and secured tightly outside the flange. As the gripping member is movable in this way, it will not hinder the winding

up of the cable onto the reel by being located intermediate the flanges when in a rest position. Furthermore, the hand held cable reel will be compact and simple to manufacture.

5 In another embodiment of the invention there is provided a hand held cable reel in which there is provided a hole in the flange and the end of the gripping member dimensioned to receive a cable is movable through the hole in the flange to and from a loading position and a securing position. This is seen as a particularly preferred embodiment of the invention as the gripping member may be passed through the
10 hole in the flange, the cable passed around it and then the gripping member may be taken back through the hole in the flange thereby securely fastening the cable in position. This would prevent any further payout of the cable and is both simple and inexpensive to manufacture.

15 In one embodiment of the invention there is provided a hand held cable reel in which there are provided a plurality of holes in the flange and the end of the gripping member secured to the flange is rotatably mounted on the outermost surface of the flange so that the gripping member may be rotated about the flange and the end of the gripping member dimensioned to receive the cable may be passed through any
20 one of the holes at any one time. This is seen as useful as the cable reel may accommodate a number of different sizes of lengths of cable. By having a number of holes in the flange the gripping member can always grip the cable adjacent an end thereof which would prevent having to have loose cable that is not tightly secured to the cable reel. It is envisioned that in one embodiment there may be two holes in the
25 flange diametrically opposed to each other about the flange. Alternatively, there may be provided three holes in the flange equally spaced circumferentially about the flange..

30 In a further embodiment of the invention there is provided a hand held cable reel in which there are provided ridges protruding outwardly from the outermost surface of the flange to prevent inadvertent dislodgement of the gripping member. By having ridges protruding outwardly from the outermost surface of the flange the gripping members will be protected and will not be inadvertently dislodged on impact. This will provide a more robust secure device.

In another embodiment of the invention there is provided a hand held cable reel in which the end of the gripping member dimensioned to receive the cable is flush with the innermost surface of the flange when the gripping member is not in use. By
5 having the end of the gripping member dimensioned to receive the cable flush with the innermost surface of the flange the gripping member will not inhibit the winding up of cable around the cable reel when the gripping member is not in use.

10 In one embodiment of the invention there is provided a hand held cable reel in which there is provided an outwardly depending lip around the circumference of the flange having the gripping member mounted thereon.

15 In a further embodiment of the invention there is provided a hand held cable reel in which the gripping member is constructed from a resiliently deformable material. This will enable the cable reel to have as few operating parts as possible. It is envisaged that the resiliently deformable material may be formed from a strip of metallic material or from a resiliently deformable plastic material.

20 In another embodiment of the invention there is provided a hand held cable reel of the type comprising a central cable receiving core mounted between a pair of disc like end flanges, a handle mounted on the outermost surface of one of the end flanges radially offset from the central axis of the core, characterised in that there is provided a central bore extending substantially along the length of the central cable receiving core accessible through a hole in the other flange and a rotatably mounted
25 handle located at the bottom of the central bore. By having a central bore extending substantially along the length of the central cable receiving core and a handle rotatably mounted on the bottom of the central bore the two handles used by an operator to wind up the cable around the cable reel will be significantly closer together than with other known types of cable reel. In this way, the handles may be
30 wound in substantially the same plane which will facilitate the winding up of cable about the cable reel. The cable reel will be less likely to oscillate from side to side when the cable is being wound about the reel and cable unwinding is greatly facilitated.

In one embodiment of the invention a hand held cable reel in which at least one of the handles further comprises a base portion rotatably mounted on the cable reel and a grip portion mounted on the base portion, the base portion and the grip portion being arranged to form a loop for reception of at least one finger of an operator therethrough. This is seen as a particularly useful handle for use with the cable reel that allows the cable reel to be gripped in a firm manner by an operator which will further reduce the tendency of the cable reel to oscillate from side to side.

In a further embodiment of the invention there is provided a hand held cable reel in which the rotatably mounted handle located at the bottom of the central bore further comprises a base portion rotatably mounted on the bottom of the central bore and a grip portion mounted on the base portion arranged to form a loop for reception of the fingers of an operator therethrough.

In another embodiment of the invention there is provided a hand held cable reel in which the loop formed by the grip portion and the base portion is substantially elliptical in shape. This would be particularly useful as the handle will be able to be gripped firmly by the user who may then operate the cable reel effectively.

In another embodiment of the invention there is provided a hand held cable reel in which the central bore extends along the entire length of the cable receiving core and the rotatably mounted handle located at the bottom of the bore is mounted on the innermost surface of the flange upon which there is a handle mounted on its outermost surface.

Detailed Description of the Invention

This invention will now be more clearly understood from the following description of some embodiments thereof given by way of example only with reference to the accompanying drawings in which: -

Fig. 1 is a perspective view of a hand held cable reel according to the invention;

Fig. 2 is a side view of the hand held cable reel of Fig. 1;

Fig. 3 is an end view of the hand held cable reel held shown in Fig. 2 along the lines A - A;

5 Fig. 4 is an end view of the hand held cable reel shown in Fig. 2 along the lines A-A with the gripping portion in a loading position;

10 Fig. 5 is an end view of the hand held cable reel shown in Fig. 2 along the lines A-A with the gripping portion in a securing position with the cable secured therein;

Fig. 6 is a side view of an alternative construction of gripping portion for use with the hand held cable reel;

15 Fig. 7 is a partially cut away end view of an alternative construction of hand held cable reel according to the invention;

Fig. 8 is a partially cut away end view of a further alternative construction of hand held cable reel according to the invention;

20 Fig. 9 is a perspective view of an alternative construction of hand held cable reel according to the invention;

25 Fig. 10 is a side cross-sectional view of an alternative construction of means to retain the cable in position for use with the cable reel according to the invention;

Fig. 11 is a similar view to that shown in Fig. 10 with a length of cable being introduced into the gripping member;

30 Fig. 12 is a view similar to that shown in Figs. 10 and 11 with the length of cable retained by the gripping member;

Fig. 13 is an alternative construction of gripping member for use with the cable reel according to the invention;

Fig. 14 is an end view of an alternative construction of cable reel according to the invention;

5 Fig. 15 is a partial perspective view of a cable reel having an alternative construction of protective shield;

Fig. 16 is a cross-sectional view along the lines B-B of Fig. 15;

10 Fig. 17 is a perspective view of an alternative construction of cable reel according to the invention; and

Fig. 18 is a cross-sectional view along the lines C-C of Fig. 17.

15 Referring to the drawings and initially to Figs. 1 and 2 thereof there is shown a hand held cable reel, indicated generally by the reference numeral 1, comprising a central cable receiving core 3 mounted between a pair of end flanges 5 and means to secure a length of cable 7 relative the cable reel. The means to secure a length of cable further comprising a gripping member 9 secured at one end 11 to the flange 5 and its other end 13 being dimensioned to receive a cable. The end 13 dimensioned to receive a cable is movable from a loading position substantially intermediate the pair of flanges and a securing position substantially external the flanges. The end 9 is rotatably mounted on the flange and there are provided a plurality of holes 14 in the surface of the flange. Ridges 15 are located adjacent each of the holes. There are further provided handles 16 for manipulation by the user of the hand held cable reel.

20
25
30 In use, when it is desired to store the cable the user grasps the handles 16 and winds the cable up around the cable receiving core until the cable is fully wound around the cable receiving core. The gripping member is rotated by the user to the hole 14 in the flange nearest the end of the cable. The end 13 of the gripping member is pushed inwardly through hole 14 and the cable is placed in the end dimensioned to receive a cable. The end 13 is released and it acts under resilient spring pressure to return to its original position thereby drawing the cable towards the hole in the flange and against the inner surface of the flange and securing the cable in position. The cable will be held in this position until the resiliently deformable gripping member end

13 is pushed inwardly again and the cable removed from that end.

Referring to Figs. 3 to 5 inclusive of the drawings there is shown a number of end views taken along the lines A - A of Fig. 2. In Fig. 3, the gripping member 9 is in a rest position. When the cable is ready to be secured in position the operator pushes the end 13 of the gripping member 9 through the hole 14. A cable 19 is then introduced to end 13 of the gripping member (Fig. 4) and the pressure on the end of the gripping member is released. The gripping member springs back under the returning force (Fig. 5) thereby securing the cable in position. In order to release the cable from the gripping member the end 13 will have to be pushed through the hole 14 and the cable removed from the end 13.

Referring to Fig. 6 of the drawings there is shown an alternative construction of gripping member for use with the cable reel of the present invention. The gripping member is substantially flat with the exception of a returning end 21 suitable for receiving the cable. The hole 23 in the flange 5 is larger to allow greater deflection of the gripping member 9 through the hole 23 to allow gripping of a length of cable.

Referring to Fig. 7 of the drawings there is shown an alternative construction of cable reel according to the invention. The cable reel, indicated generally by the reference numeral 31 comprises a central cable receiving core 33 mounted between a pair of disc shaped end flanges 35, 37. A handle 39 is rotatably mounted on one flange 37 and is radially offset from the central axis of the central cable receiving core. The handle comprises a base portion 41 rotatably mounted on the flange and a grip portion 43 connected to the base portion. The grip portion 43 and the base portion are dimensioned to form a loop for reception of the fingers of an operators hand. The central cable receiving core 33 further comprises a bore 45 extending substantially along its length. A handle 47 is rotatably mounted to the bottom of the bore 45. The handle 47 is therefore mounted on the innermost surface of the flange 37 that has the other handle 39 mounted on its outermost surface.

Referring to Fig. 8, where parts similar to those shown in Fig. 7 have been given the same reference numerals as before, the cable reel which is used as an electrical cable extension is further provided with a plug socket 49 for reception of a plug 51 of

an electrical appliance (not shown). The handle 47 rotatably mounted on the bottom of the bore 45 is not therefore mounted on the innermost surface of the flange 37 but is as close as possible thereto.

5 Referring now to Fig. 9 of the drawings there is shown a perspective view of an alternative construction of cable reel according to the invention where like parts have been given the same reference numerals as before. The cable reel 1 has a pair of sockets 61, 63 mounted on one end flange 5 thereof.

10 Referring now to Figs. 10 to 12 inclusive there is shown a side cross-sectional view of an alternative construction of means to retain the cable in position according to the invention, where like parts have been given the same reference numerals as before. The gripping member 9 is secured at one end 11 to the flange by way of rivet 71. The other end 13 dimensioned to receive a cable is located adjacent protective shield
15 73 which prevents inadvertent release of the gripping member while at the same time assisting in the securing of the cable in the end 13 of the gripping member.

In use, the end 13 is bent inwardly and the free end of a length of cable 19 is introduced into the end 13 of the gripping member. The end 13 is released and
20 returns upwardly under its resilient force to the position shown in Fig. 12 thereby trapping the cable in position relative the cable reel.

Referring to Fig. 13 of the drawings there is shown an alternative construction of gripping member for use with the cable reel of the present invention. The gripping
25 member 9 is bent upwardly intermediate its ends 11, 13 so that the end dimensioned to receive a cable 13 touches the protective shield 73. Of course it will be understood that the end 13 need not necessarily rest against the protective shield but may be held adjacent the shield.

30 Referring to Fig. 14 of the drawings there is shown an end view of an alternative construction of cable reel according to the invention where like parts have been given the same reference numerals as before. The gripping member 9 is rotatably mounted on the end flange 5 about point 81. The gripping member 9 may be rotated about point 81 until the end dimensioned to receive the length of cable (not shown)

may be passed through one of the holes 14 in the flange 5 and further rotated until the end (not shown) is located underneath the protective shield 73.

5 Referring now to Figs. 15 and 16 of the drawings there is shown a partial perspective view of an end flange 5 with an alternative construction of protective shield 73 for use with the cable reel according to the invention. The protective shield 73 has an inverted U-shaped cross-section and has a downwardly depending lip 85 to prevent inadvertent dislodgement of the gripping member (not shown) sideways from the hole 14 in the flange 5 as well as protecting the gripping member being inadvertently depressed thereby releasing the cable (not shown) from the gripping member. The downwardly depending lip 85 leaves a sufficient gap for movement of a gripping member to and from a position underneath the protective shield.

15 Finally, referring now to Figs. 17 and 18 of the drawings there is shown another alternative construction of cable reel according to the invention with an alternative means to secure a length of cable. The means to secure a length of cable further comprises a casing 91 having a cut out portion 93 through which a gripping member may be accessed by an operator. In use, the gripping member is depressed by an operator by passing their finger through the cut out portion 93 in the casing 91. The end 13 of the gripping member 9 is arranged to form a returning hook shape with an upwardly depending lip 95. The operation of the gripping member will be self explanatory from the foregoing.

25 Throughout this specification the term "cable" has been used. It will be understood that cable can essentially mean any type of cable-like material that can be wound around a cable reel including but not limited to cable, wire, rope, tape, electrical cabling, electrical tape, hosepipe, fabric, chain or plastic material. Essentially, any cable-like material that may be wound around the hand held cable reel is encompassed within the term cable.

30 The gripping members described can be constructed from a metallic material or a plastics material or other suitable material. Preferably the gripping member is constructed from a resiliently deformable material. Alternatively, a suitable hinge joint and resilient spring biasing means could be provided to urge the gripping member

into a storage position.

5 In the embodiments shown there are provided holes in the end flange however it will be understood that the important aspect is that the gripping member can move from a position intermediate the flanges to a position external the flanges in order to lock the cable in position. It is envisaged that a suitable gripping member could be placed on the end of the flange and could pivot to and from a loading position intermediate the flanges where a cable could be attached thereto and a securing position external the flange where the portion of the cable is trapped outside the flanges.

10 In the embodiments shown two or three holes are provided on the flange for through passage of the end of the gripping member. It will be understood that a single hole or any other number could be provided on the cable reel. Furthermore, the handles shown in the specification are loop type handles that may be easily gripped by an operator. It will be understood that different types of handle could be used instead of these types of handles. Any handle that will allow adequate grip of the cable reel to be achieved by an operator would suffice. The handles could be detachably mounted onto the outer surface of the flange or they could be pivotably mounted so that they can pivot from a position protruding outwardly from the flange to a position lying along the surface of the flange for ease of storage. An alternative spring mechanism may be found in other embodiments.

25 In this specification the terms "comprise, comprises, comprised and comprising" and the term "includes, include, included and including" are deemed totally interchangeable and should be afforded the widest possible interpretation.

The invention is in no way limited to the embodiments hereinbefore described but may be varied in both construction and detail within the scope of the claims.

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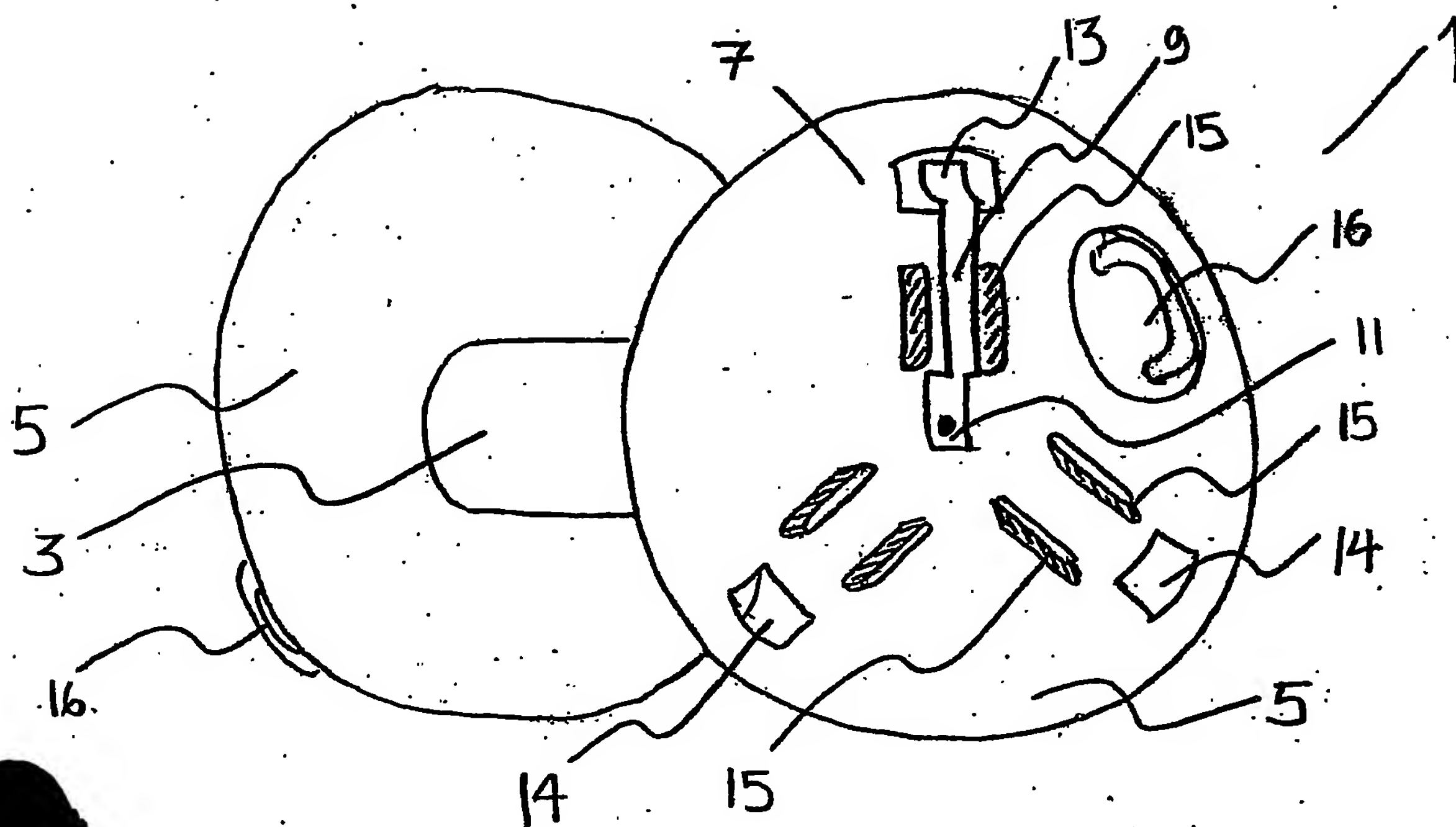


Fig 1

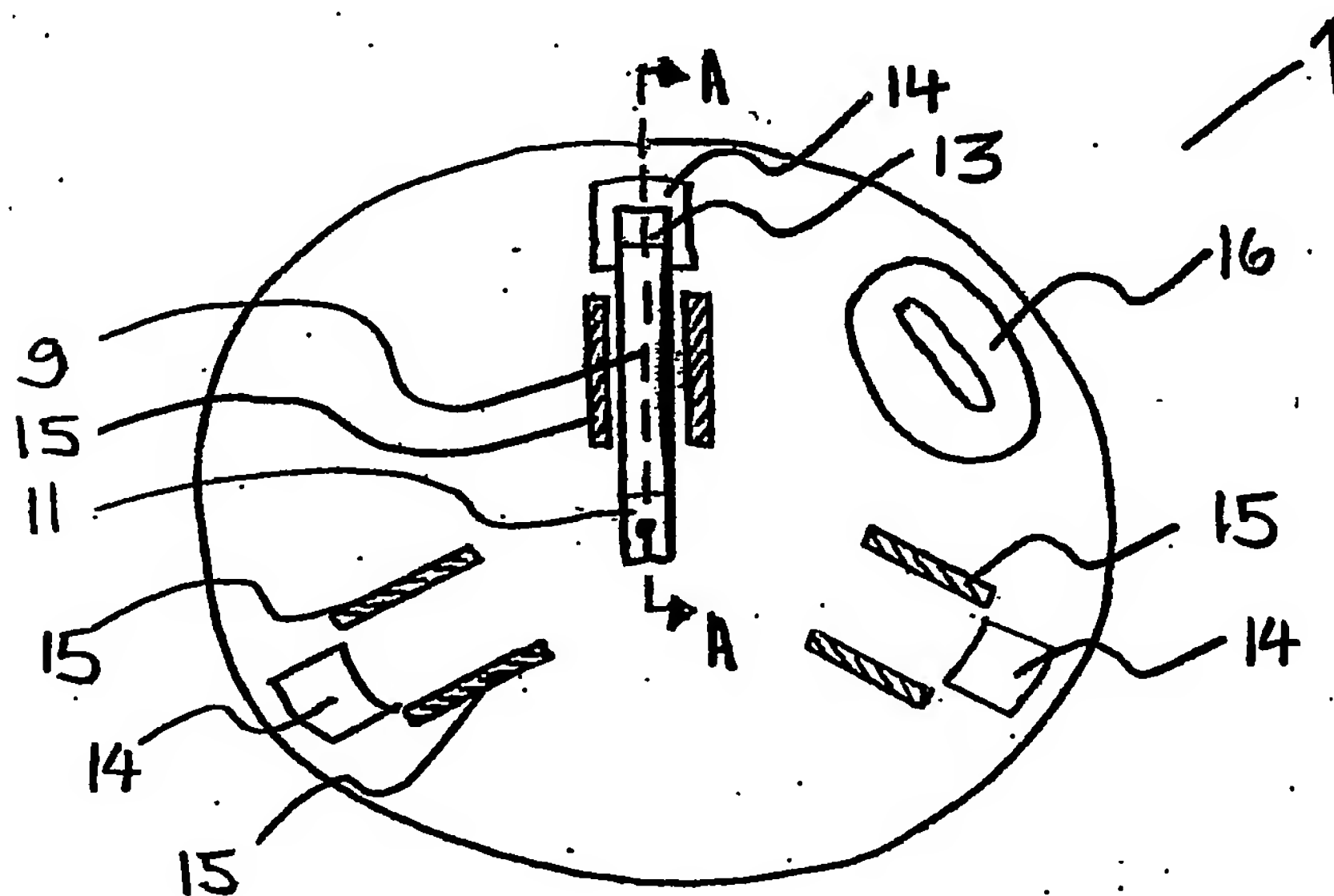


Fig 2

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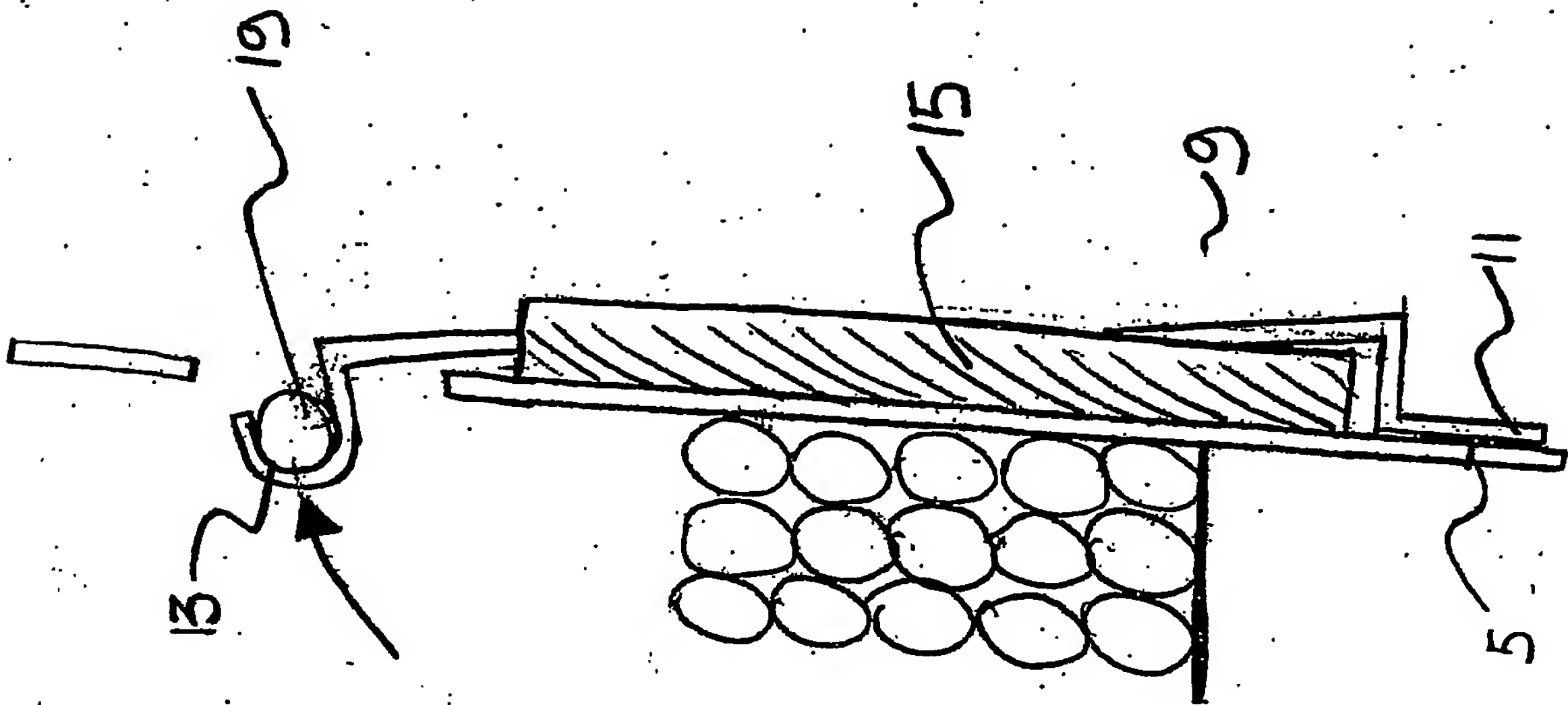


FIG 5

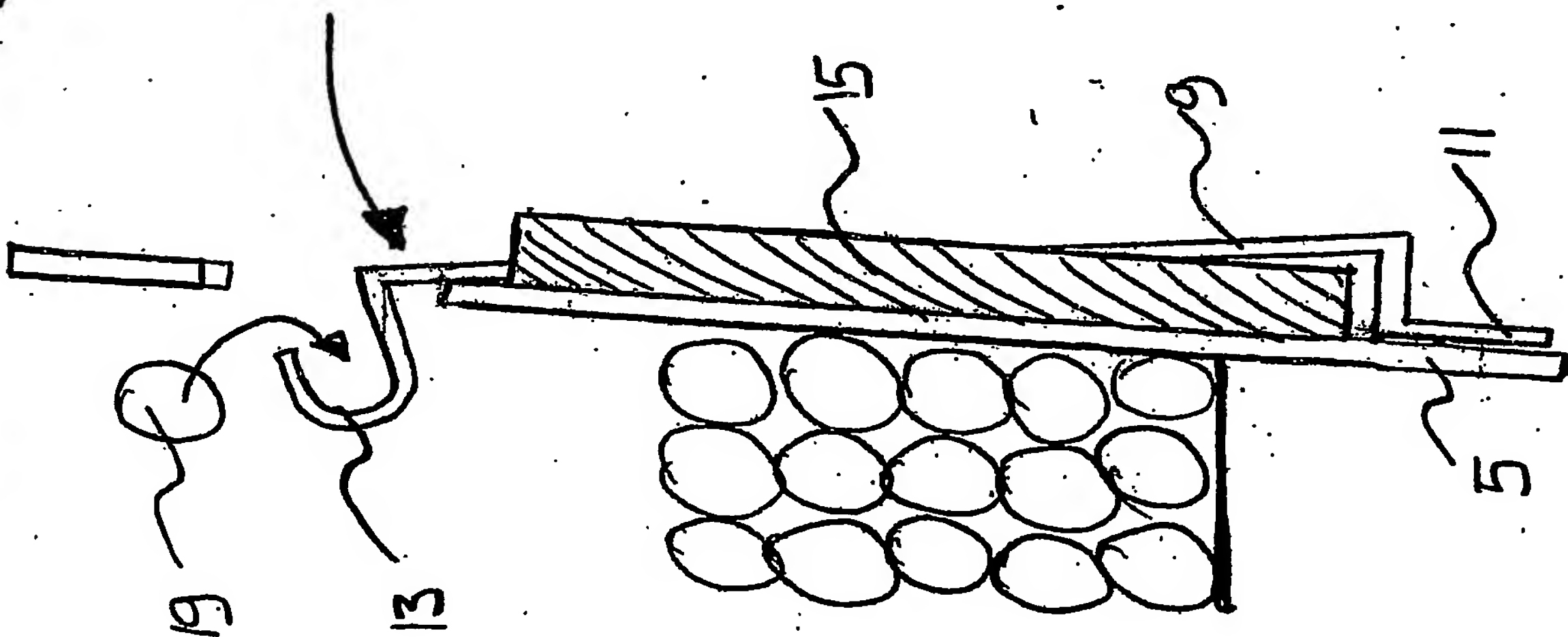


FIG 4

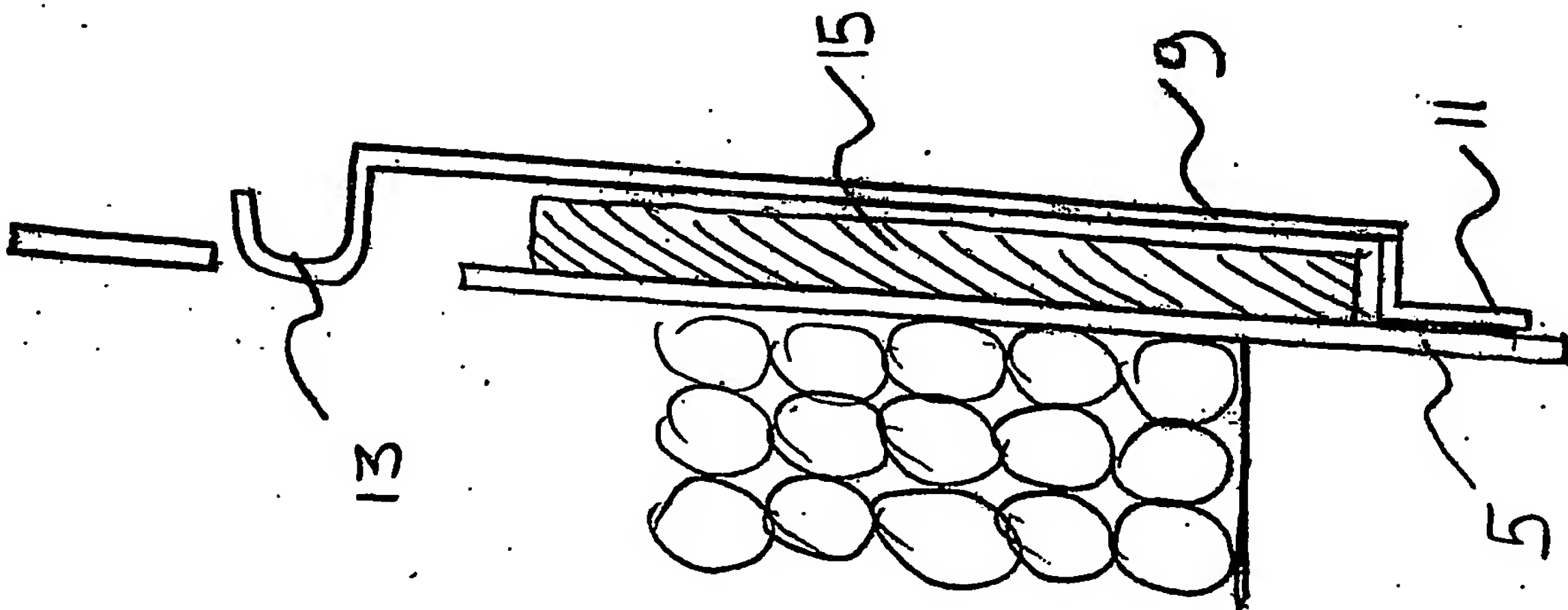


FIG 3

21+

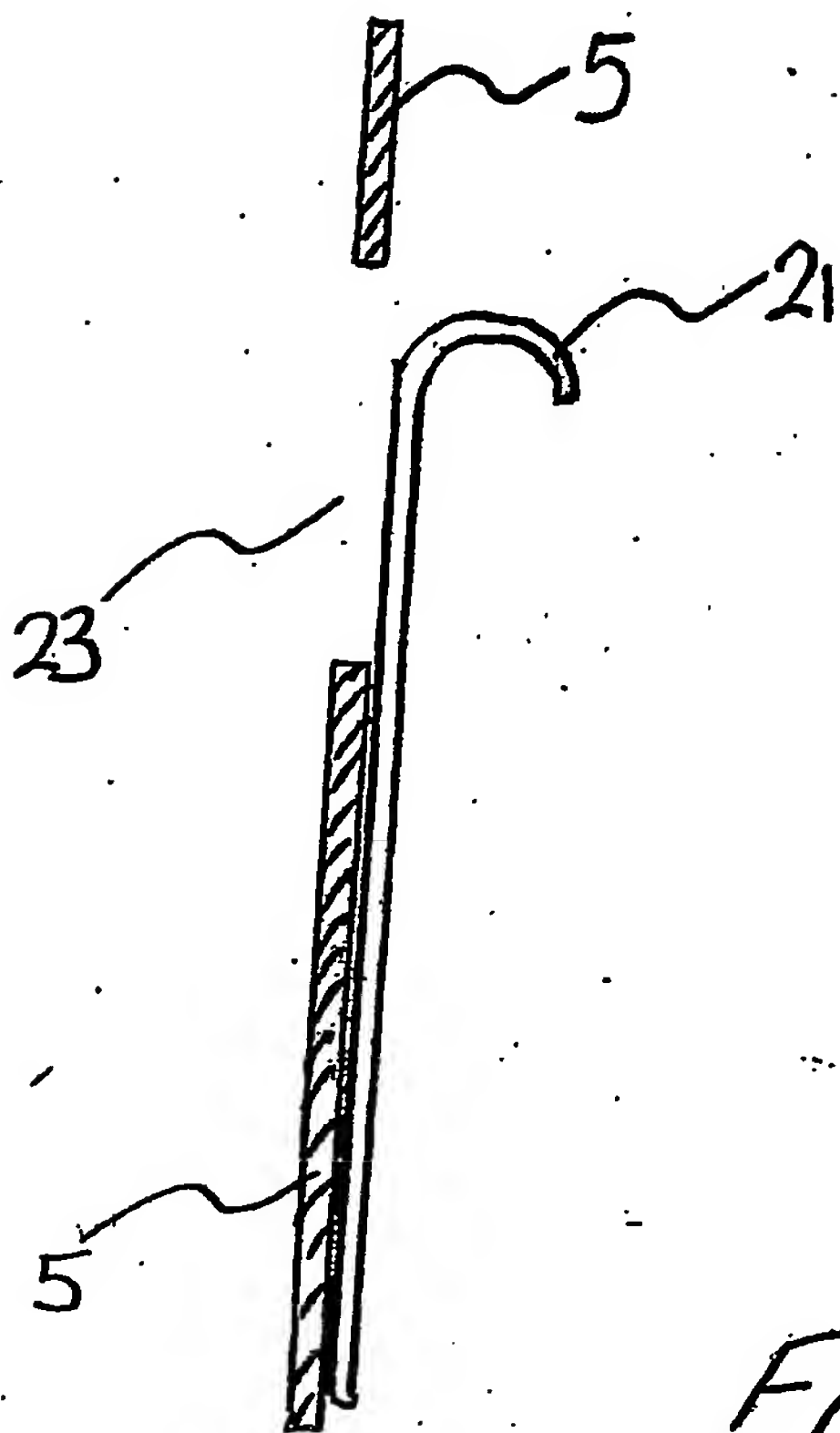


Fig 6

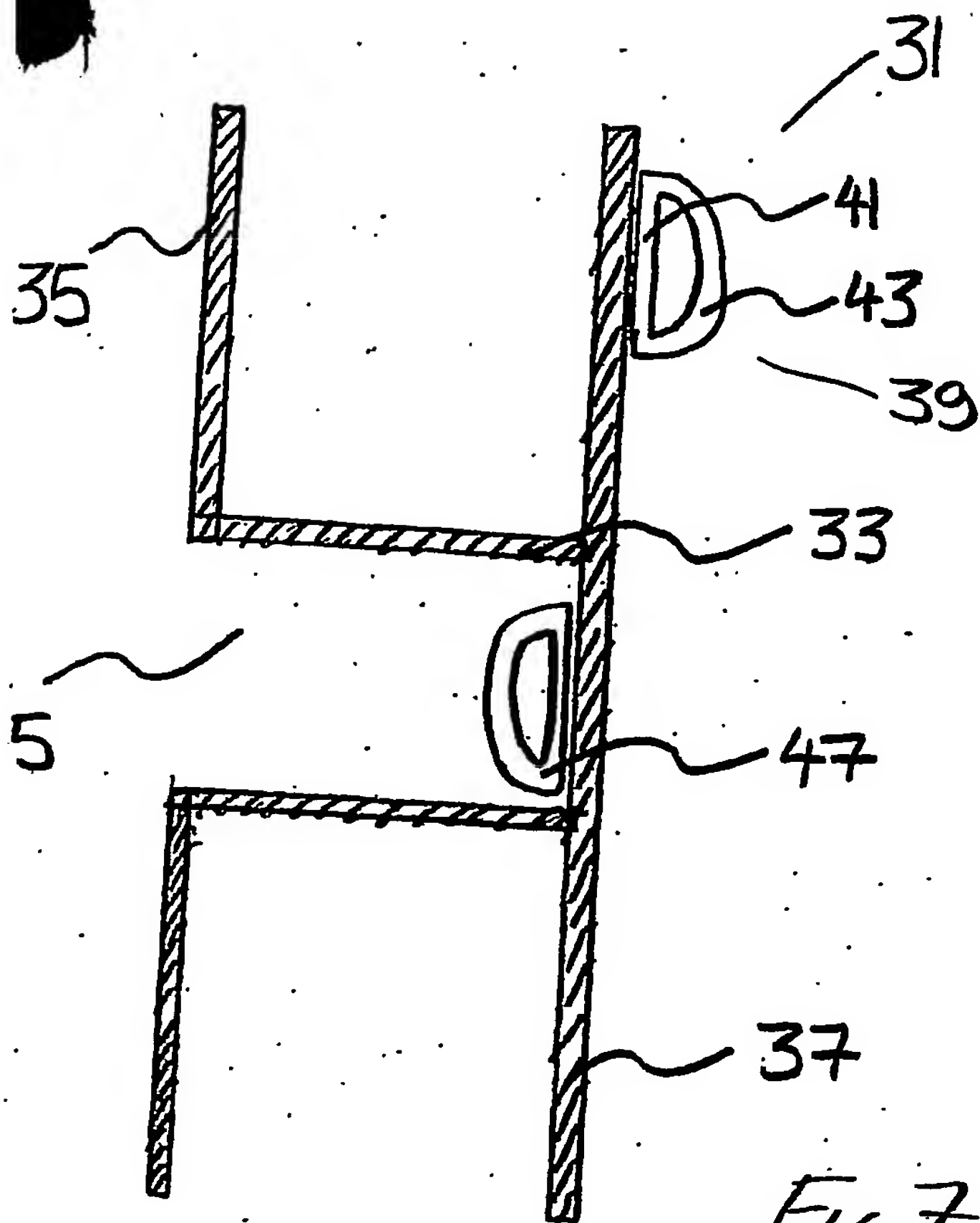
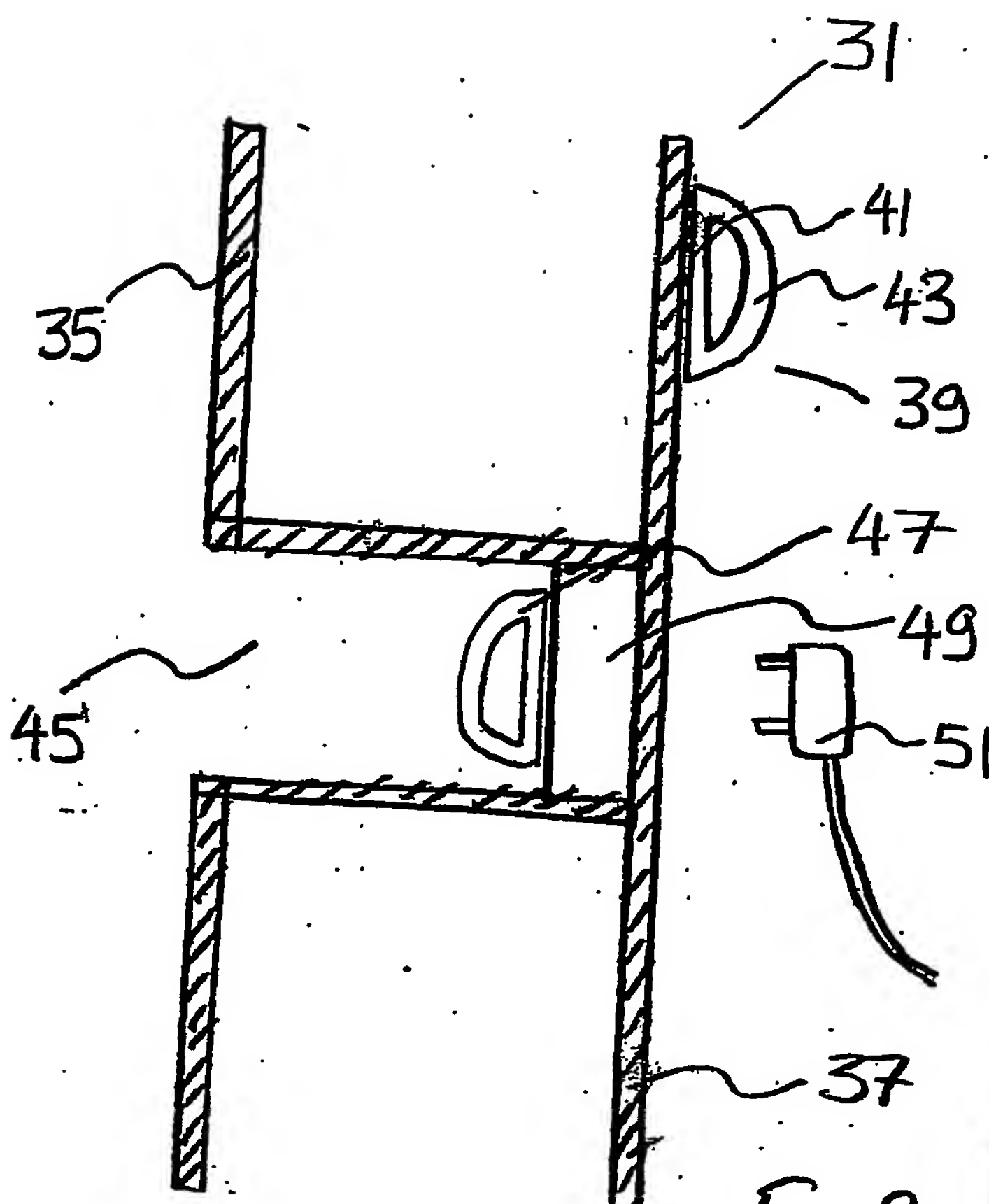


Fig 7



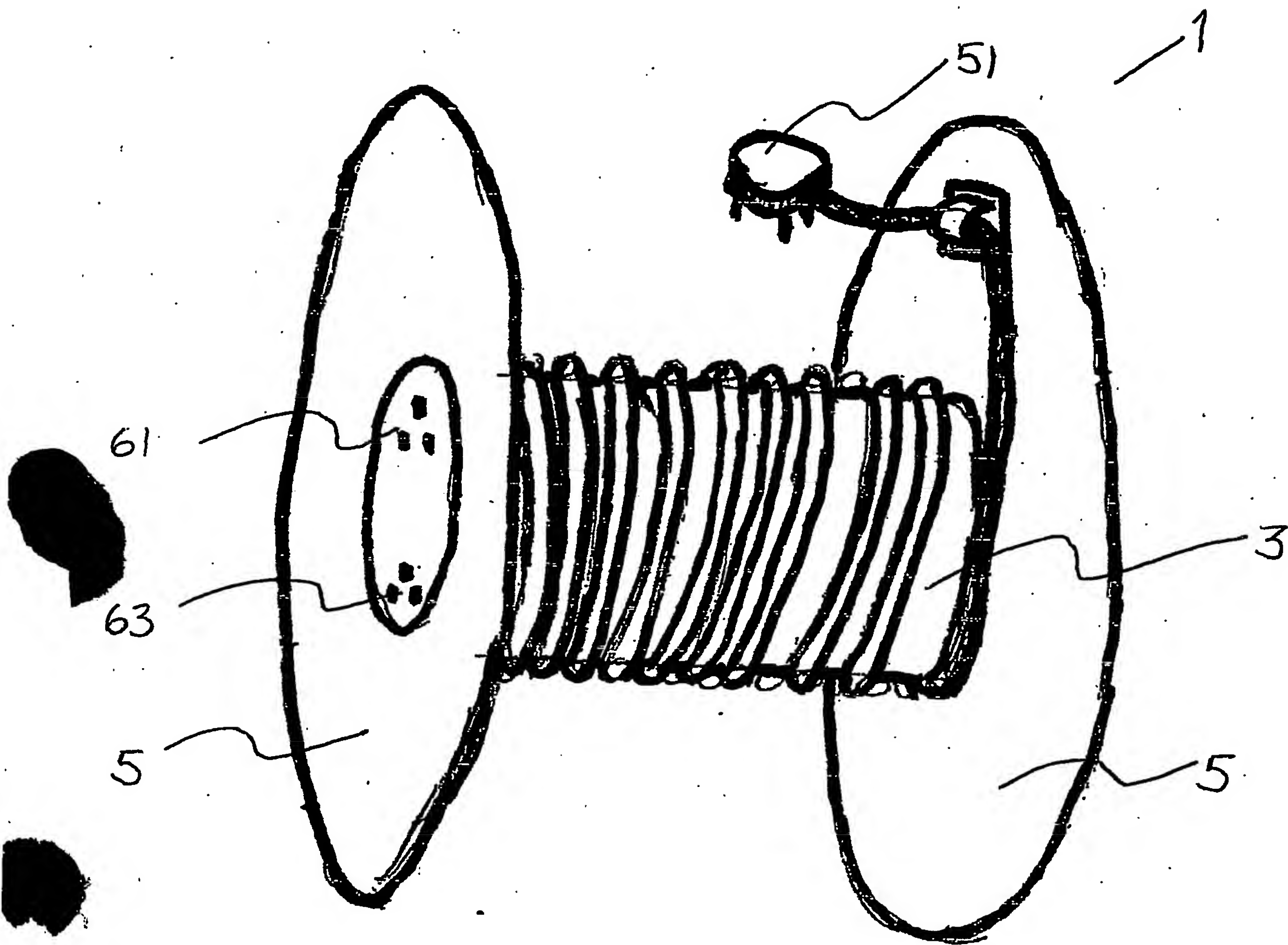


Fig 9

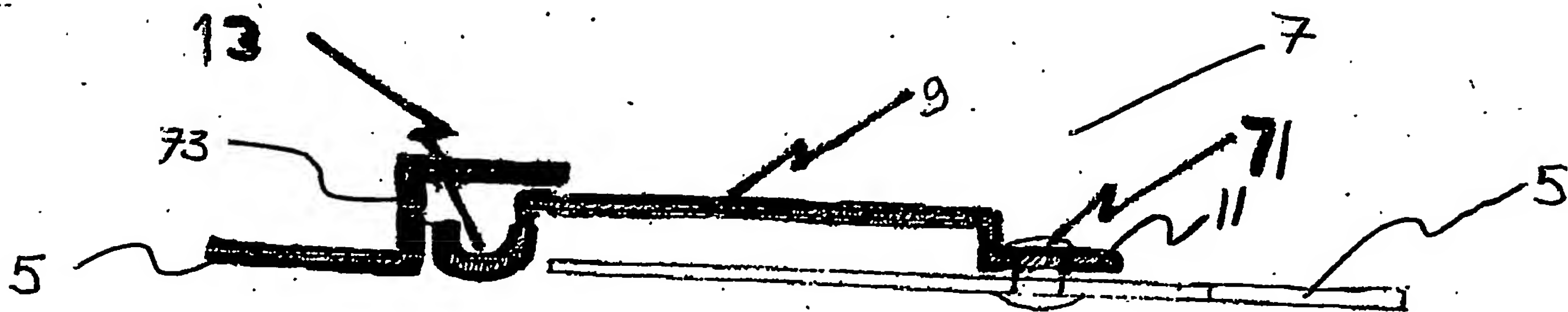


Fig 10

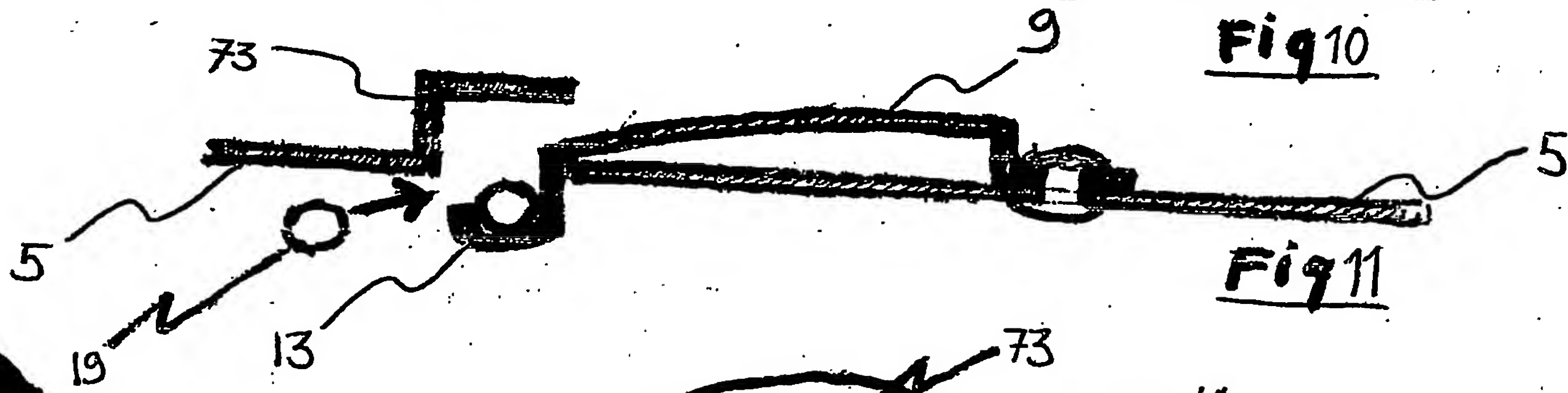


Fig 11

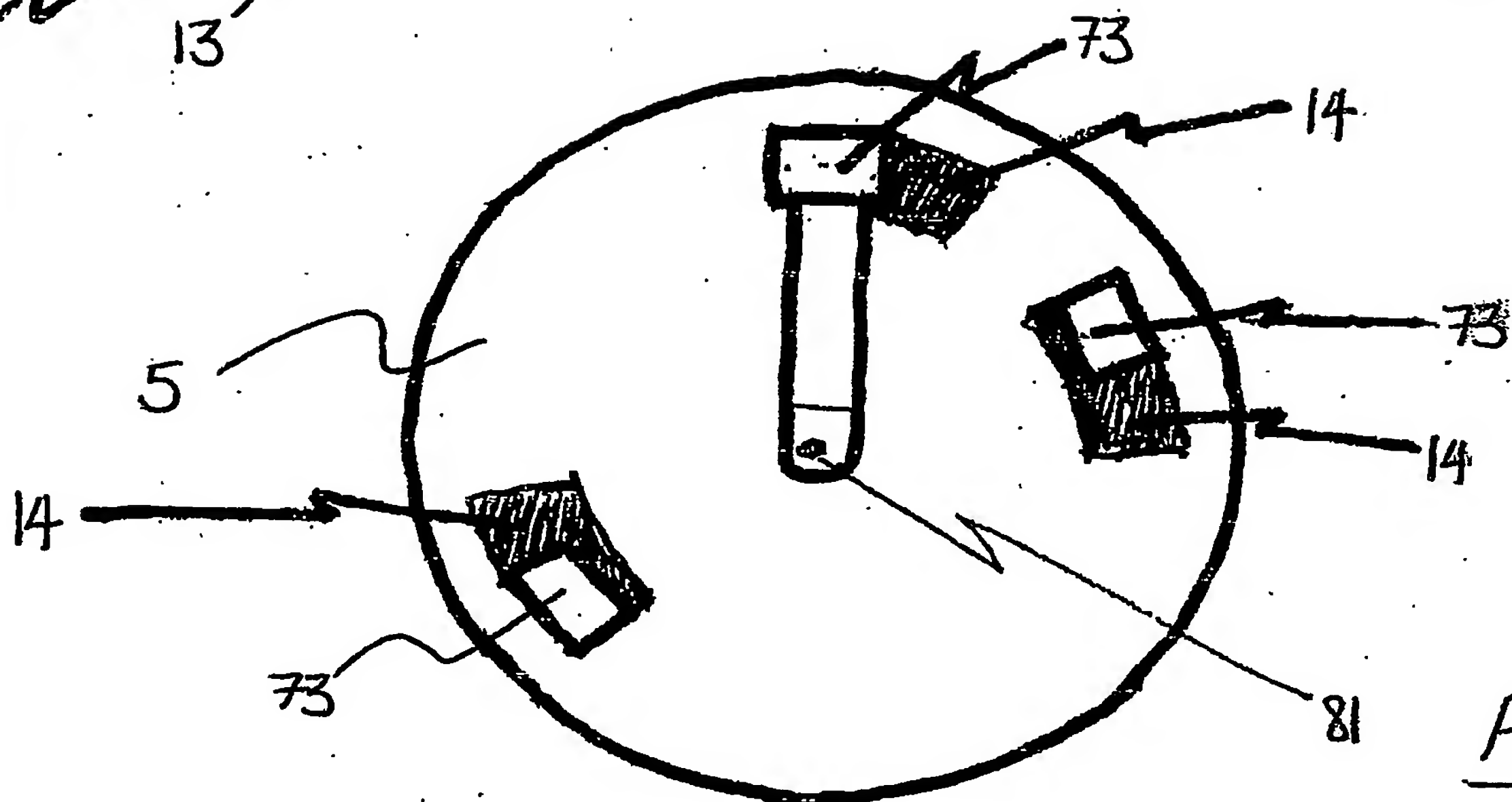


Fig 14

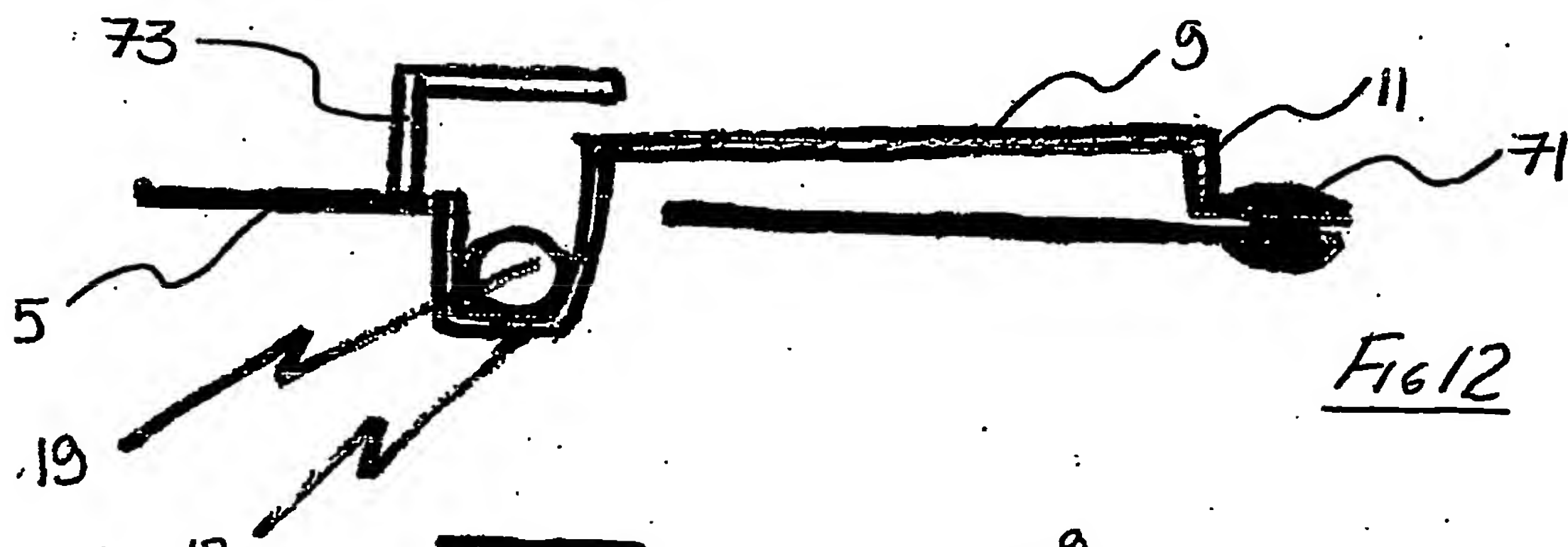


Fig 12

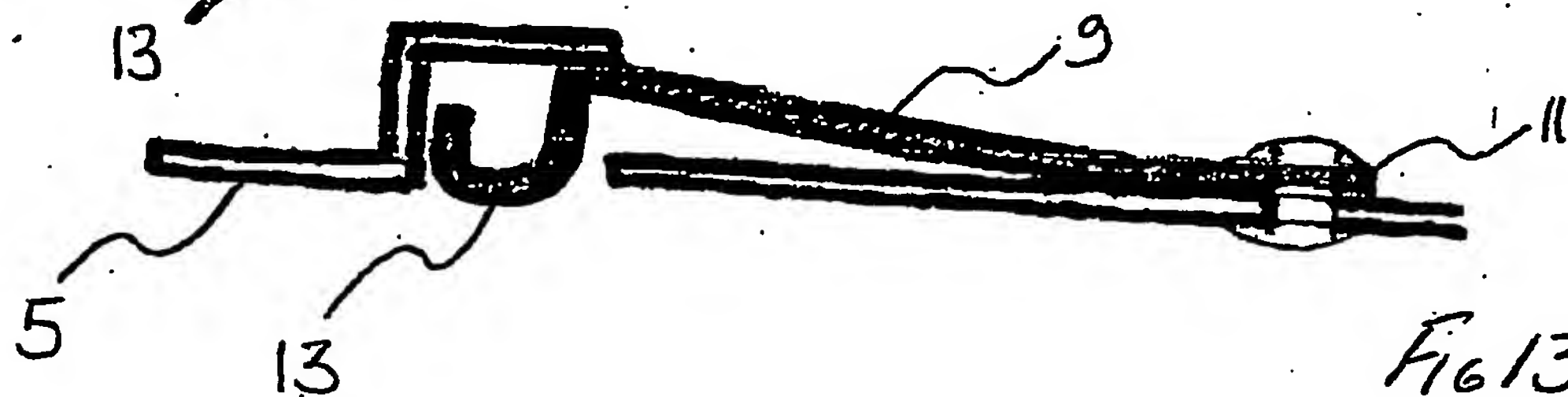


Fig 13

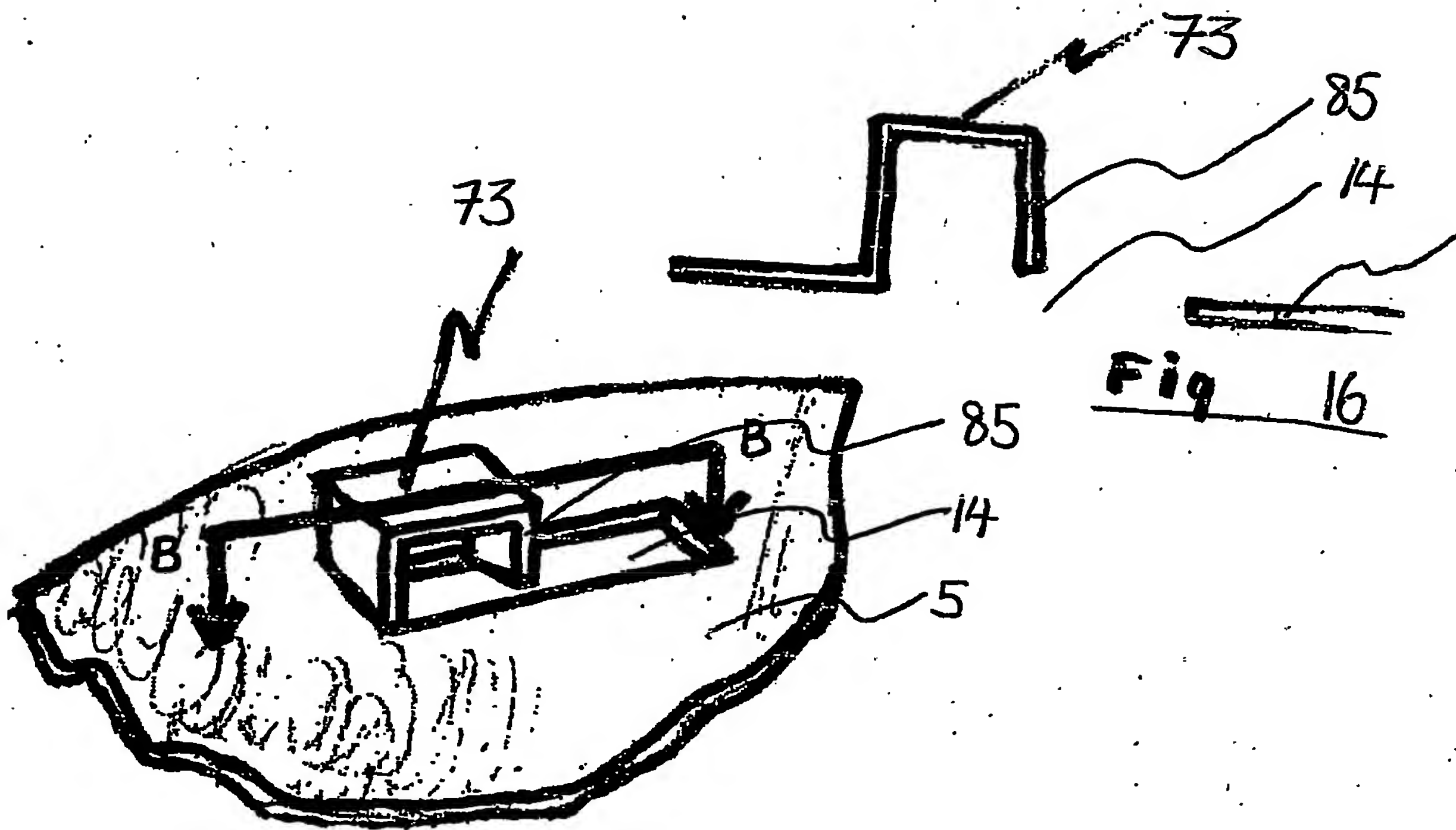


Fig 15

Fig 16

